The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care: 2018 to 2021 Update

DEVELOPED BY THE PHARMACY HEALTH INFORMATION TECHNOLOGY COLLABORATIVE
The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care: 2018 to 2021 Update

Table of Contents

1. EXECUTIVE SUMMARY ................................................................. 1
2. PURPOSE ...................................................................................... 2
3. BACKGROUND ............................................................................ 3
4. DISCUSSION ............................................................................... 5
   4.1 DEFINE WHAT THE COLLABORATIVE SHOULD FOCUS ON THROUGH 2021 BASED ON THE COLLABORATIVE’S 2018-2021 STRATEGIC PLAN. ........................................................................... 5
   4.2 RECOMMENDATIONS AND STRATEGIES ........................................... 6
   4.3 INTEROPERABLE DATA EXCHANGE ................................................. 8
5. ONC’S 10-YEAR VISION TO ACHIEVE AN INTEROPERABLE HEALTH IT INFRASTRUCTURE: IMPLICATIONS FOR PHARMACY ................................................. 9
6. CONCLUSION ................................................................................. 13
7. REFERENCES ................................................................................ 14
8. ACKNOWLEDGEMENTS ................................................................. 17
9. APPENDIX: GLOSSARY OF TERMS ................................................ 18
About the Roadmap

The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care 2011–2015 (roadmap) was the first pharmacy health information technology (HIT) strategic plan. This plan was developed by national pharmacy associations and other key stakeholders that comprise the Pharmacy Health Information Technology Collaborative (Collaborative). Formed in the fall of 2010, the Collaborative’s founding organizations represent pharmacists in all patient care settings and other facets of pharmacy, including pharmacy education and pharmacy education accreditation. The Collaborative’s associate members represent e-prescribing networks, a standards development organization, transaction processing networks, pharmacy companies, system vendors, and other organizations that support pharmacists’ services. The Collaborative was founded by nine pharmacy professional associations representing over 250,000 members and includes associate members from other pharmacy-related organizations. For additional information, visit www.pharmacyhit.org.

The roadmap provides guidance to provider organizations, policymakers, vendors, payers, and other stakeholders striving to integrate pharmacy HIT into the national (U.S.) HIT infrastructure. The Roadmap outlines the goals and strategies related to the pharmacy profession’s HIT objectives. The goals listed in this document are numbered by process and not by priority. The Pharmacy HIT Collaborative contributes to specific aspects within the Roadmap that are aligned with the scope, goals, objectives, and strategies of the Collaborative.

In 2013, the Collaborative redefined its strategic plan through 2017. The Collaborative’s vision and mission was for the U.S. health care system to be supported by meaningful use of Health IT and the integration of pharmacists for the provision of quality patient care. In addition, to advocate and educate key stakeholders regarding the meaningful use of Health IT and the inclusion of pharmacists within a technology-enabled integrated health care system. In 2017, the Collaborative members updated the vision, mission, goals, and objectives to ensure U.S. health IT infrastructure better enables pharmacists to optimize person-centered care. This roadmap is updated to reflect the areas the pharmacy profession needs to continue its focus and is mapped to the Collaborative’s 2018-2021 strategic plan.
2. Purpose

The purpose of this document is to align the 2011-2015 roadmap to the Collaborative’s 2018-2021 strategic plan’s vision, mission, goals, and objectives. The roadmap is updated to reflect the areas the pharmacy profession needs to continue its focus and is mapped to the Collaborative’s 2018-2021 Strategic Plan.

**Update Goals**

- Define areas the pharmacy profession needs to continue working on that are related to pharmacists’ integration into the national health IT infrastructure.
- Define the areas the Collaborative should focus on that are related to the vision, mission, goals, and objectives the Collaborative’s 2018-2021 Strategic Plan.
- The goals reflect the efforts of the Collaborative to drive cultural technology changes for how pharmacists interact and collaborate with other of the healthcare team.

HIT must enable pharmacists to improve public health by assuring safe and effective medication use and supporting patient-centered team-based care.
3. Background

The original roadmap outlined the following 10 goals and recommendations for action by the pharmacy profession.

- Goal 1: Ensure that HIT Supports Pharmacists in Health Care Service Delivery
- Goal 2: Achieve Integration of Clinical Data With Electronic Prescription (e-prescribing) Information
- Goal 3: Advocate for Pharmacist Recognition in Existing Programs and Policies
- Goal 4: Ensure that HIT Infrastructure Includes and Supports MTM Services
- Goal 5: Integrate Pharmacist-Delivered Immunizations into the EHR
- Goal 6: Achieve Recognition of Pharmacists as Meaningful Users of EHR Quality Measures
- Goal 7: Advance System Vendor EHR Certification
- Goal 8: Promote Pharmacist Adoption and Use of HIT and EHRs
- Goal 9: Achieve Integration of Pharmacies and Pharmacists into Health Information Exchanges
- Goal 10: Establish the Value and Effective Use of HIT Solutions by Pharmacists

In 2013, the Collaborative Council members reviewed the 10 goals and 92 strategies, determining status, importance, industry relevance, and if the Collaborative should continue working on the strategies. In 2013, pharmacy leader representatives identified a subset of the strategies and recommendations from the original roadmap. The leaders identified the strategies and recommendations that fit the 2014-2017 Pharmacy HIT Collaborative’s strategic plan. A similar process was used for the 2018-2021 roadmap update.

These pharmacy leader representatives reviewed the findings outlined in sections 4.1 and 4.2. They identified a subset of the strategies and recommendations from the original Roadmap document. The leaders identified the strategies and recommendations the Collaborative should continue to focus on to fit the 2014–2017 Pharmacy HIT Collaborative’s Strategic Plan.

History of the Collaborative

- Formed in 2010 by nine national pharmacy professional organizations, the Collaborative leads the pharmacy profession in integrating pharmacists’ provided patient care services into the national health IT infrastructure by working in collaboration with accredited standards development organizations (NCPDP, HL7, and X12) and U.S. government regulatory agencies (HHS, CMS, and ONC).
- In 2011, the Collaborative structure was opened to associate members. The Collaborative Council currently has twenty member organizations.
- The Collaborative and its members use the roadmap for outreach to health IT stakeholders. The roadmap provides one common set of pharmacist health IT goals.

Accomplishments to Date

- Collaborative members appointed over 100 volunteers focused on preparing guidance documents related to educating pharmacists and pharmacy vendors on various health IT topics.¹
- The Collaborative is often called upon to present on health IT topics related to
The Collaborative is the steward of the clinical documentation codes and value sets for the pharmacy profession and are responsible for vetting and approving documentation codes and value sets for use in national electronic health information exchanges.

» The Collaborative is an active participant and driving force in standardized terminology with the National Library of Medicine (NLM), Food and Drug Administration, Centers for Medicare & Medicaid Services (CMS), and other government organizations working on these standards.

» The Collaborative works to ensure pharmacists providing patient care services are able to collect, document, and share clinically relevant medication-related information. This information promotes the delivery of high quality health care and satisfaction of requirements for value-based payment models.

» The Collaborative engages stakeholders within and outside the pharmacy sector. It has established close working relationships with key departments and staff at the Office of the National Coordinator for Health IT (ONC) and CMS. The Collaborative is established as an industry leader and active participant in health information exchange (HIE) and health IT standards development organizations initiatives and agendas.

» The Collaborative participates and leads national standards development work representing pharmacists providing patient care services (e.g., Pharmacist eCare Plan, Pharmacist EHR).

» The Collaborative serves as the unified voice of pharmacy representation on the AMA CPT® Health Care Professionals Advisory Committee (HCPAC) Editorial Panel and endeavors to enhance the recognition of pharmacists and their patient care services.

» The Collaborative participates in USP’s allergy and intolerance technical expert panel to standardize electronic allergy and adverse drug event reporting within EHRs.

4. Discussion

4.1. Define what the collaborative should focus on through 2021 based on the collaborative’s 2018-2021 strategic plan

A volunteer committee of Collaborative members revised recommendations and strategies to fit the 2018-2021 strategic plan as follows:

Vision
The U.S. health IT infrastructure will better enable pharmacists to help optimize person-centered care.

Mission
As the leading authority in pharmacy health information technology, the Pharmacy HIT Collaborative advances and supports the use, usability, and interoperability of health IT by pharmacists to help optimize person-centered care.

This is accomplished by:

• identifying and voicing the health IT needs of pharmacists;
• promoting and influencing awareness of pharmacists’ use and functionality of health IT;
• collaborating, facilitating, and convening stakeholders on topics related to health IT;
• providing resources, guidance, and support for adoption and implementation of standards-driven health IT;
• guiding health IT standards development and other activities to address the health IT needs of pharmacists; and
• supporting the collection, documentation, and exchange of information among health IT systems.

Goals
INTEROPERABILITY: Advance the adoption by pharmacists of systems capable of standards-driven health information exchange.
WORKFLOW and USABILITY for systems and providers: Health IT supports the JCPP Pharmacists’ Patient Care Process and the provision of patient care services.
QUALITY: Facilitate the use of Health IT that supports effective quality measurement.

delivery.
4.2 Recommendations and strategies

**Update Goals**

- Support standards for pharmacy systems to adopt EHR light (2015 ONC certification and HL7 MUEHR functional profile) including:
  - Common clinical data set (SNOMED CT, RxNorm, LOINC, allergies, immunizations and exchange of C-CDA)
  - Adoption of EHR light by system vendors to use ONC certification and HL7 functional requirements.
- Related to interoperability is the issue of health information exchanges that would be included in registries and/or patient matching.
- Pharmacist awareness of the importance of working with their system vendors to adopt standardized processes for interoperable collection, documentation, and exchange of clinical information regardless of pharmacy practice setting or other health care providers (e.g., dietitians or their health care facility).
- Awareness of the need for HIE access to interoperable data by pharmacists who are currently not recognized as a provider.
- Pharmacists, through Collaborative member organizations, should have access to continuing education activities that address different billing mechanisms needed for medication management services provided by pharmacists when clinical information is being exchanged to meet value-based or fee-for-service models.

**GOAL 1: INTEROPERABILITY:** Advance the adoption by pharmacists of systems capable of standards-driven health information exchange.

Objective 1: Identify system enhancements that the Collaborative can influence & develop an action plan.

Objective 2: Convene and collaborate with stakeholders to identify ways to improve interoperability, consider actionable steps and develop an action plan.

Objective 3: Provide information, education, and resources to increase awareness of interoperability and its impact in healthcare.

**Recommended Strategies**

- Pharmacists through Collaborative member organizations should have access to continuing education activities that address standards driven health information exchanges.
- Through the Collaborative, promote pharmacist involvement in standards development organizations, the pharmacy profession can influence pharmacist-provided patient care services within electronic health solutions.

**GOAL 2: WORKFLOW and USABILITY** for systems and providers

Health IT supports the Joint Commission of Pharmacy Practitioners (JCPP) Pharmacist Patient Care Process (PPCP) and the provision of patient-care services.

Objective 1: Participate with and influence standards development organizations (SDOs)
and system vendors’ activities to facilitate use and usability by pharmacists.

Objective 2: Create tools and resources to promote the JCPP PPCP workflow and use within HIT systems.

Objective 3: Conduct targeted outreach activities to pharmacists and other key stakeholders to promote effective use.

Objective 4: Participate in and influence the development and maintenance of pharmacy-related AMA CPT® codes.

Recommended Strategies

- The Collaborative organizations should support pharmacists participation in the standards development efforts and to assist standards development organizations (e.g., NCPDP and HL7) to become aware of and use the JCPP PPCP in systems workflow.
- The Collaborative should support pharmacists to work with system vendors to incorporate the JCPP PPCP into systems capturing pharmacist-provided clinical services.
- The Collaborative should work with pharmacy associations to educate pharmacists on the importance of standardizing electronic data collection following the JCPP PPCP including incorporating Prescription Drug Monitoring Programs (PDMP) data into the workflow.
- The Collaborative should work with pharmacy associations to build awareness about AMA CPT® use by pharmacists in documenting patient care services for payment.

Goal 3: QUALITY: Support national quality initiatives enabled by HIT.

Objective 1: Establish and maintain clinical documentation coding and value sets for the profession.

Objective 2: Integrate and harmonize the measure development work of Pharmacy Quality Alliance (PQA) and other entities in facilitating the data quality model using standard terminology.

Recommended Strategies

- Through the Collaborative efforts, pharmacists should be aware of national terminology (SNOMED CT, LOINC and RxNORM) and value sets of those terms to support standardized clinical documentation.
- The Collaborative organization should support pharmacists to work with system vendors to incorporate SNOMED CT and value sets into systems to capture pharmacist-provided clinical services.
- Collaborate with pharmacy associations and Collaborative member organizations to educate pharmacists on the awareness of capturing standard codes during pharmacist-provided patient care services.
- Collaborate with PQA to build quality measures using national terminology coding.
4.3 Interoperable data exchange

The diagram illustrates the vision behind interoperable exchange of data through health information exchanges (HIEs) where patient centric data captured by pharmacists clinical documentation system using standard terminology is exchanged with other healthcare settings. The value of interoperable exchange of standard and codified data is highly recognized by providers and payers using pharmacy systems electronically exchanging pharmacy prescription claims and electronic prescribing transactions. Pharmacists capturing and exchanging standard clinical data can demonstrate similar value.
5. ONC’S 10-Year Vision to Achieve an Interoperable Health IT Infrastructure: Implications for Pharmacy

The government has been working for some time on building a health IT foundation. “Computers were used in pharmacy practice for maintaining profiles, dispensing, and billing as early as the 1960s.”2 Since its founding in 2010, Collaborative members have acknowledged the opportunity to build awareness on documenting patient care services and outcomes within pharmacy management systems and not just focus on prescription dispensing functions. The Collaborative worked to convince other health care professionals that pharmacists have significant medication-related data other than prescription dispensing data.

The Collaborative has worked with ONC to ensure pharmacists are recognized as an integral part of the health IT infrastructure. Through CMS’ meaningful use program, eligible hospitals and professionals have adopted health IT in a meaningful way. In its concept paper, Connecting Health and Care for the Nation: A 10-Year Vision to Achieve an Interoperable Health IT Infrastructure, ONC states “there is much work to do to see that every individual and their care providers can get the health information they need in an electronic format when and how they need it to make care convenient and well-coordinated and allow for improvements in overall health.”3

By 2024, ONC believes that care providers, including pharmacists, will be part of an interoperable health IT infrastructure where “the right data is available to the right people at the right time across products and organizations in a way that can be relied upon and meaningfully used by recipients. As we work toward this vision for the future interoperable health IT ecosystem, we will plan and execute our work to align with a set of guiding principles.”4 To achieve this goal, ONC is working on the development of a shared, nationwide interoperability roadmap.

Outlined below is how the Collaborative and its members are meeting the nine elements of the ONC’s 10-year vision for achieving interoperability.
The Collaborative and its members support using existing health IT infrastructure for pharmacists providing patient care services. The Collaborative works to achieve the following improvements in the current infrastructure:

- Assists to define national recognized terminology (e.g., SNOMED CT and Value Sets) to standardize clinical documentation by pharmacists;
- Promotes the use of federally recognized standards (e.g., NCPDP, HL7) to develop electronic structured documents (e.g., Pharmacists eCare Plan) to electronically share pharmacist-provided clinical information;
- Provides guidance to a variety of stakeholders as it relates to the need of pharmacists in the development of health IT infrastructure; and
- Encourages pharmacists to work with vendors to build on existing health IT system structure to allow for interoperability and functionality.

The Collaborative and its members support the concept that one technology solution does not work in all pharmacists’ practice settings, especially for pharmacists providing patient care services. Using nationally recognized standards (e.g., Pharmacist eCare Plan) will allow each practice site to have a system that meets their needs but still allow for interoperability. The Collaborative is actively involved in the following areas to support the use of government recognized standards that strive for baseline interoperability among health IT solutions while allowing pharmacy system vendors to remain innovative for their customers:

- The Collaborative is an active member of NCPDP and HL7 and participates in the standards development process to ensure standards incorporate the JCPP PPCP. An example is the Collaborative’s involvement in developing the Pharmacist eCare Plan standards efforts outlined in the ONC Interoperability Proving Ground.²
- The Collaborative educates pharmacists and pharmacy system vendors on using the JCPP PPCP workflow process within Pharmacist eCare Plan standard that supports interoperable sharing of pharmacist-provided patient care services.

The Collaborative and its members support encouraging patients to adopt technology to manage their medications and medication-related information. The Collaborative works on the following to support working with patients in a person-centric manner to participate in their medication-related care:

- The eCare Plan is a way for pharmacists to receive data, share medication-related outcomes, and the person-specific goals relating to employment and engagement in their care and improve their lives.
- The JCPP PPCP is a patient-centered model and helps pharmacists standardize clinical documentation while keeping the clinical data patient-specific.
- PHIT supports engaging patients in their care and making person-centric medication-related data available to patients and health care providers.
The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care: 2018 to 2021 Update

Leverage the market

The Collaborative and its members support the need to leverage markets to adopt standards and health IT certification to share medication-related information in an interoperable way.

- The Collaborative works with PQA to adopt electronic clinical quality measures (eCQMs) using standard terminology (SNOMED CT, LOINC and RxNorm) where pharmacists document clinical services to increase the demand for interoperability sharing of clinical data outside the claims process.
- The Collaborative supports the efforts for pharmacy management systems to adopt eCare Plans as a means to share pharmacists’-provided medication-related service documentation in an interoperable way.

Simplify

The PHIT Collaborative and its members support system vendors to use health IT standards that simplify interfaces and provide a proprietary solution for sharing clinical information.

- The Collaborative’s efforts of encouraging pharmacists’ system vendors to adopt health IT standards have led to the reduction of proprietary interfaces which help to simplify processes.

Maintain modularity

The Collaborative and its members support system vendors to adopt standard health IT solution with a modular approach. This works well for pharmacy system vendors including those pharmacy management systems that dispense prescriptions and document clinical services. Modularization is usually less costly and helps pharmacy management systems program software to meet their customers’ workflow without programing functionality found in larger enterprise systems.

- The Collaborative supports the voluntary adoptions of ONC 2015 Health IT Certification, which is a more modular EHR certification approach based on meeting interoperable sharing of clinical information instead of adopting enterprise EHR systems that don’t meet the pharmacists’ specific documentation process.

Consider the current environment and support multiple levels of advancement.

The Collaborative and its members support multiple levels of health IT interoperability adoption and have worked to support considering the different pharmacy practice settings and level of pharmacist clinical encounters.

- The Collaborative’s guidance documents provide examples of health IT solutions by various practice settings and with different levels of health IT advancements.
Focus on value

The Collaborative and its members support the use of standard health IT efforts with a focus on value and works with pharmacy associations to educate pharmacists and promote capturing clinical documentation using standards to assist pharmacists with the ability to measure value.

- The Collaborative’s efforts related to the NLM Value Sets helps pharmacy system vendors codify clinical encounters in a standardized way.
- The Collaborative works with SDOs to develop the means to standardize electronic clinical quality measures (eCQMs) using standard terminology (SNOMED CT, LOINC and RxNorm).

Protect privacy and security in all aspects of interoperability

The Collaborative and its members support the use of standard health IT guidelines that promote privacy and security and worked in the following area related to health IT privacy and security:

- The Collaborative supports the voluntary adoption of ONC 2015 Health IT Certification, which tests systems to assure required privacy and security processes are in place for pharmacists sharing patient clinical information.
6. Conclusion

Over the past eight years, the Collaborative has made significant accomplishments in several areas related to government outreach, education, standards development work, and coding impacting the pharmacy profession.

Since 2010, the government has been working on building a health IT foundation. The Collaborative works with ONC to assure pharmacists are recognized as an integral part of the health IT infrastructure. The Collaborative’s roadmap focuses on the implications to the pharmacy profession as it relates to ONC’S 10-Year Vision to Achieve an Interoperable Health IT Infrastructure.

This addendum aligns the Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care 2011-2015 to the Collaborative’s 2018-2021 Strategic Plan and provides guidance to the pharmacy profession for advocating and educating key stakeholders regarding the use of health IT and the inclusion of pharmacists within a technology-enabled integrated health care system.
7. References

1. PHIT Work Group Documents (http://www.pharmacyhit.org/).

References below are noted in the first roadmap (http://www.pharmacyhit.org/pdfs/11-392_RoadMapFinal_singlepages.pdf).


The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care: 2018 to 2021 Update

8. Acknowledgements

The following representatives of the Pharmacy HIT Collaborative Advisory Group, developed this paper, The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care: 2017 to 2021 Update:

Coordinators:
- Shelly Spiro, Executive Director, Pharmacy HIT Collaborative
- Jesse Spiro, Administrative Manager, Pharmacy HIT Collaborative

Primary Authors:
- Amey Hugg, ASHP
- Brad Tice, Cardinal Health
- Brandon Ordway, ASHP
- David Searle, Pfizer
- Jennifer Shoaf, Omnicell
- Lisa Schwartz, NCPA
- Mindy Smith, Prescribe Wellness
- Patricia R. Lind, APhA
- Peinie Young, Cardinal Health
- Peter Vlasses, ACPE
- Rebecca Chater, Omnicell
- Rebecca Snead, NASPA
- Ronald Pate, Omnicell
- Sandra Leal, APhA
- Sean Power, Prescribe Wellness
- Steve Mullenix, NCPDP
- Tricia Lee Wilkins, AMCP

Authors:
- Adam Dickenson, Omnicell
- Arnie Clayman, ASCP
- James Green, Surescripts
- Lynette Bradley-Baker, AACP
- Melissa Frechen, RelayHealth
- Patrick Harris, RelayHealth
- Scott Fannin, Updox
- Jack Pate, UNC Eshelman School of Pharmacy, representing Omnicell
- Adam Dickinson, UNC Eshelman School of Pharmacy, representing Omnicell
- Dariska Walker, Campbell University College of Pharmacy and Health Sciences, representing Omnicell
9. APPENDIX: Glossary of Terms

- AMA – American Medical Association https://www.ama-assn.org/
- C-CDA – Consolidated Clinical Document Architecture
  https://www.healthit.gov/buzz-blog/interoperability/ccda-long-ccda-click-scorecard/
- CMS – Centers for Medicare and Medicaid Services https://www.cms.gov/
current-procedural-terminology
- eCQMs - Electronic Clinical Quality Measures
- EHR - Electronic Health Record https://www.healthit.gov/topic/health-it-basics/benefits-
ehrs
- HCPAC - Health Care Professional Advisory Committee https://www.ama-assn.org/
  practice-management/cpt-code-process
- HHS – Health and Human Services https://www.hhs.gov/
- HIE - Health Information Exchange https://www.healthit.gov/topic/health-it-basics/
  health-information-exchange
- HIN - Health Information Network https://www.healthit.gov/sites/default/files/what-Is-
  the-nhin--2.pdf
- HIT - Health Information Technology
- HL7 – Health Level Seven http://www.hl7.org/
- IT - Information Technology
- JCPP – Joint Commission of Pharmacy Practitioners https://jcpp.net/
- LOINC – Logical Observation Identifiers Names and Codes https://loinc.org/
- MUEHR – Meaningful Use of Electronic Health Records https://www.healthit.gov/topic/
federal-incentive-programs/meaningful-use
- ONC – Office National Coordinator for Health Information Technology https://www.
  healthit.gov/
- PHIT - Pharmacy Health Information Technology Collaborative http://www.pharmacyhit.
  org/
- PPCP – Pharmacists’ Patient Care Process https://jcpp.net/patient-care-process/
- PQA – Pharmacy Quality Alliance https://www.pqaalliance.org/
- RxNorm - provides normalization for clinical drugs https://www.nlm.nih.gov/research/
  umls/rxnorm/
- SNOMED CT - Systematized Nomenclature of Medicine–Clinical Terms https://www.nlm.
  nih.gov/healthit/snomedct/
- X12 – American National Standards X12 http://x12.org/